

### **REMARKS**

Reconsideration and allowance of the subject application are respectfully requested. Claims 1-6, 11-15 are pending, claims 1, 11, and 13- 15 have been amended, and claims 7-10 and 16-18 have been cancelled as being related to claims in the issued parent application.

### **Prior Art Rejections**

#### **1. Rejection under 35 U.S.C. § 102 (b) based on Case et al.**

Claims 1-6 and 11-15 stand rejected under 35 U.S.C. §102(b) as being anticipated by Case ("Multifacet holographic optical elements for wave front transformations", Case S. K. et al., APPLIED OPTICS, Vol. 20, No. 15, 1 August 1981). This rejection is respectfully traversed.

Amended claims 1 and 11 state:

... wherein the spatial separation avoids interference between the output beam and any other diffracted beam of a different order ... (amended claim 1).

...where the output beam does not interfere with the other diffracted beams (amended claim 11).

The Examiner alleges that "Case et al. discloses (see Figures 2, 3, 7) an off-axis beam shaper or splitter ...to spatially separate the output beam of the desired order from all other diffracted beams of different orders as described in pages 2670-2673" (Office Action, 8 Sept 2004, pg. 2, para 2.).

Case is directed to illumination of specific areas on an object (Case et al., pg. 2670, Introduction, col. 1, ll. 3-5). In the system shown in Case, a first hologram is constructed in a

volume phase material having nearly 100% efficiency into a single diffracted order (Case et al., A. Hologram #1 design, pg. 2671, col. 1, ll. 4-7). Figure 3a illustrates the first hologram having forty-four cells (Case et al., A. Hologram #1 design, pg. 2671, col. 2, ll. 1-3; Figure 3a). The first hologram intercepts the Gaussian beam in the forty-four cells and spatially redistributes the cell light into the desired shape (Case et al., A. Hologram #1 Design, pg. 2671, col. 2, ll. 5-8; Figure 3b). The gratings in the first hologram have nearly 100% diffraction efficiency so that all the incident light is diffracted toward the desired output (Case et al., A. Hologram #1 Recording, pg. 2672, col. 1, ll. 20-23).

The system in Case is directed to a system that requires tight tolerances and a specific design frequency (or the diffracted beam position will vary). Case fails to show, suggest, or teach the separation of desired order diffracted beam(s) from an undesired order diffractive beam(s) so that interference does not occur between the desired diffractive order and the undesired diffractive order. The illumination frequency is not limited in the present invention. Whereas, upon illumination by various frequencies upon the system of Case, there is no suggestion, showing, or teaching of separating the resultant undesired diffracted orders from the desired diffractive order so that no interference occurs. Thus, Case fails to show, suggest or teach all the features of amended claims 1 and 11.

For anticipation under 35 U.S.C. § 102 "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)(M.P.E.P. 2131).

Applicant has already explained why Case fails to teach or suggest all the features of amended claims 1 and 11. Since claims 2-6 and 12-15 depend directly or indirectly on one of claims 1 and 11, claims 2-6 and 12-15 are allowable at least for the reasons generally expressed above with respect to amended claims 1 and 11.

In view of the above, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejection under 35 U.S.C. § 102(b) based on Case.

### CONCLUSION

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the formal objections and rejections to the claims, and the rejections based on prior art. Because all claims are believed to define over prior art of record, Applicant respectfully requests an early indication of allowability.

If the Examiner has any questions concerning this application, the Examiner is requested to contact the undersigned at (703) 740-8322 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayments to Deposit Account No. 50-3136 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Very truly yours,  
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